**Before the**

**Federal Communications Commission**

**Washington, D.C. 20554**

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| AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition; Petition of the National Telecommunications Cooperative Association for a Rulemaking to Promote and Sustain the Ongoing TDM-to-IP Evolution | ) ) ) ) ) ) | WC Docket No. 12-353 |

# Comments of AARP

**January 28, 2013**

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## Introduction

AARP respectfully submits these Comments for the FCC's consideration, and thanks the Commission for the opportunity to participate in this important proceeding regarding the transition to broadband networks.[1] AARP is keenly interested in this technology transition. Telecommunications technologies play a growing role in the lives of older Americans, i.e., those in 50+ households. The impact of broadband technologies is only beginning to be felt. The pervasive availability of high quality and affordable broadband connections—both fixed and mobile—can enable new applications and services, including new methods of delivering healthcare and support for independent living. Video conferencing and advanced telepresence technology have the potential to empower older Americans to successfully age in place. Broadband connections also have the potential to benefit consumers by encouraging competition and choice. For example, by enabling high-quality streaming video, broadband may finally allow consumers to bypass the bundles of television programming offered by cable and satellite providers, and gain access to reasonably priced *à la carte* programming options.

As the broadband transformation unfolds, it is also important to recognize the importance of legacy services that run over the current public switched telecommunications network (PSTN), and which ultimately will migrate to the IP-enabled public broadband network of the future. For example, older Americans choose wireline voice services to a greater extent than other age demographics. According to 2012 data from the National Health Interview Survey, about 89.5% of households aged 65 and above live in a household with wireline voice service,

[1] These comments were prepared with the assistance of Trevor R. Roycroft, Ph.D., a consultant to AARP.

and about 74.2% in the 45-64 age group purchase wireline service.[2] However, this does not reflect a rejection of wireless mobility technologies by older households; rather, older Americans *prefer to buy both wireless mobility and wireline services*. According to the most recent microdata from the NHIS, there has been a steady increase in wireless adoption across older households, with the 50-64 age range closing in on 90% adoption by 2011, and the next wave of 50+ households, those in the 40-49 age group, showing over 90% wireless mobility adoption.[3]

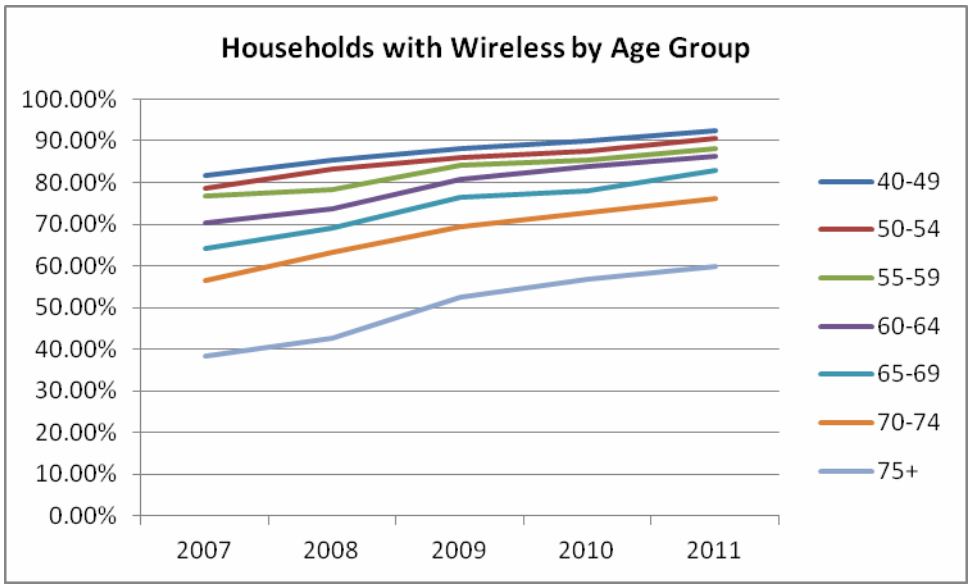


**Figure 1: Wireless Phone in Household, by Householder Age**

Thus, when considering policy issues associated with future networks, choices made by consumers should be carefully considered. While older households have embraced wireless mobility services, the 2012 data on wireline subscription mentioned earlier lead to the reasonable conclusion that older Americans have also expressed their preference for reliable, affordable, and

[2] Stephen J. Blumberg, Ph.D., and Julian V. Luke, "Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January-June 2012," Division of Health Interview Statistics, National Center for Health Statistics, December 19, 2012, Table 2, p. 8. http://www.cdc.gov/nchs/nhis/releases.htm#wireless

[3] Data in Figure 1 has been compiled from the microdata associated with the NHIS, for the years 2007-2011; microdata for 2012 have not yet been released. 2007-2011 microdata available at: http://www.cdc.gov/nchs/nhis/quest_data_related_1997_forward.htm

high quality wireline voice services. Thus, the impact of the technology transformation on wireline voice services is also of critical concern for older households and for AARP.

## Technology Transition and Policy Objectives

The underlying theme of the two petitions relates to an ongoing technology transition—from time-division-multiplexing (TDM) networks to broadband Internet protocol (IP) networks. TDM and IP are alternative *techniques* for delivering services. The technology associated with the delivery of telecommunications services has experienced changes in technique in the past. Prior to the deployment of TDM technology, telephone companies used frequency division multiplexing (FDM) to deliver voice services. Alternatively, the technique associated with the transmission of traffic on the PSTN was significantly modified with the introduction of Signaling System 7 (SS7). SS7 improved the efficiency of the delivery of voice and data services using the PSTN, and also introduced many new services (such as Caller ID, call trace, distinctive ringing, etc.) With the FDM or SS7 transitions, the change in technique did not require the abandonment of basic policy objectives, such as the widespread availability of affordable and reliable services.

Thus, a key question that arises when considering the two petitions is the relationship between technological change and overarching policy objectives. For example, the Communications Act states that the FCC was created:

> For the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nationwide, and world-wide wire and radio communication service with adequate facilities at reasonable charges, for the purpose of the national defense, for the purpose of promoting safety of life and property through the use of wire and radio communication…[4]

[4] 47 U.S.C. §151.

This statement of purpose is technology neutral, with the objectives of ubiquitous and reasonably priced communications networks applying regardless of the technology platform utilized to deliver the services. It is appropriate that these objectives of the statute direct the Commission as it oversees this latest technology transformation.

## AT&T's Petition

AT&T's petition raises several issues that are already being considered by the Commission in a proceeding addressing regulatory forbearance issues raised by the US Telecom Association.[5] AT&T filed reply comments in that proceeding on April 24, 2012, and there made arguments similar to those advanced in AT&T's new petition regarding Section 214 discontinuance requirements,[6] notice-of-network-change rules,[7] and requirements related to copper loops.[8] While AARP did not file comments in that proceeding, AARP finds agreement with the reply comments filed by NASUCA *et al*. in response to the US Telecom Association Petition:

> USTelecom has failed to demonstrate with any factual support that the regulations from which it seeks forbearance "are antithetical to the deployment of broadband." Crucially, it has not produced evidence showing the forbearance previously granted by the FCC to some carriers with respect to certain regulations has directly resulted in greater broadband deployment than otherwise would have occurred. Soundly managed companies make their investment decisions—including those concerning when and where to deploy broadband—based on their projections of the revenues and expenses associated with such investment. US Telecom has failed to demonstrate how granting its Petition would significantly and specifically alter companies' cost-benefit analyses undertaken for the purpose of making capital investment decisions. Although, of course it is likely that companies will save some money by avoiding the need to comply with particular regulations, USTelecom's vague assertion to this effect does not substitute for a rigorous cost/benefit analysis. Rather than granting USTelecom's poorly justified Petition in order to achieve its broadband goals, the FCC should instead rely on its policy and decisions in

[5] See, Petition for Forbearance of The United States Telecom Association. *In the Matter of: Petition of US Telecom For Forbearance Under 47 U.S.C. § 160(c) From Enforcement of Certain Legacy Telecommunications Regulations*, WC Docket No. 12-61, February 16, 2012.
[6] AT&T Reply Comments in WC Docket No. 12-61, p. 6.
[7] AT&T Reply Comments in WC Docket No. 12-61, p. 19.
[8] AT&T Reply Comments in WC Docket No. 12-61, p. 21.

> its "Connect America Fund" Order, which establishes incentives and a blueprint for achieving broadband deployment.[9]

As will be discussed further below, AT&T's new petition does not offer any convincing evidence that regulation is standing in the way of AT&T or other ILECs investing in broadband.

## What is the Evidence that Regulation is Blocking Broadband Investment?

AT&T's new petition is ostensibly about regulatory impediments to broadband deployment and the transition to IP based services. According to AT&T:

> . . . ubiquitous deployment of IP facilities and services is not inevitable. There will be many high-cost areas where the business case for broadband deployment remains highly challenging. And where that case is weakest, the regulatory environment will influence providers' future investment decisions. Consequently, if the Commission hopes to maximize private sector investment to achieve its goals of nationwide broadband, and preventing stranded investment in obsolete facilities and services, it should take further action now to "facilitate the transition" to an "all-IP network."[10]

AT&T argues that unless it gets relief from "regulatory burdens," ILEC "incentives to invest in new or upgraded IP networks" will be reduced.[11] AT&T also states that high-cost areas will present the biggest challenge, and offer the greatest potential for benefits from regulatory relief.

The argument offered by AT&T that a "regulatory burden" is suppressing ILEC broadband investment is not convincing, and AT&T itself gives evidence that this is not the case. AT&T offers the following summary of its investment agenda in its Petition:

> As its traditional DSL broadband technology approaches the end of its life cycle, AT&T is planning a $6 billion wireline investment that includes providing higher-speed, IP-based wireline broadband to 57 million customer locations (consumer and small business), representing more than 75 percent of AT&T's wireline footprint. . . .
>
> At the same time, AT&T plans to invest $8 billion in wireless network initiatives, including, but not limited to, expanding LTE deployment to reach 300 million people, by

[9] Reply Comments of NASUCA, Maine Office of Public Advocate, and New Jersey Rate Counsel in WC Docket 12-61, April 9, 2012, pp. 10-11.
[10] AT&T Petition, p. 4, footnote omitted. Matter in quotations in the cited passage reflects AT&T quoting the Commission's *USF/ICC Transformation Order*, 26 FCC Rcd at 17926, ¶783.
[11] AT&T Petition, p. 5.

> yearend 2014. As part of that initiative, AT&T will offer wireless communications alternatives to customers living in particularly high-cost areas. These alternatives will include AT&T's innovative Mobile Premises Services, which allows customers to make calls using ordinary wireline handsets connected to wireless base stations. Together with the wireline expansion and upgrades described above, *AT&T's investments are projected to extend high-quality IP-based broadband services to 99 percent of all customer locations within AT&T's wireline service area.*[12]

These investment plans have been made while AT&T is subject to the very obligations that AT&T elsewhere indicates are stifling investment.[13] Taken on its face, AT&T's proposal for regulatory relief appears to be directed at the *one percent* of customer locations that AT&T will not be serving with IP-based broadband services. However, AT&T's broadband investment plan does not extend wireline broadband to 99 percent of customer locations; rather, about 25 percent will be served with LTE wireless services.[14] As will be discussed in more detail below, the migration to a wireless-only service arrangement raises significant concerns regarding the affordability and reliability of service. If AT&T has a projection of the specific regulatory impediments to deploying high-quality wireline broadband to these unserved customers, it does not reveal that information.

AT&T also argues that substantial capital resources are being misdirected at maintaining legacy TDM networks, and cites to a 2009 Columbia Institute for Tele□Information study to support the claim that *one-half* of ILEC investment is used to support legacy services.[15] However, as will be discussed in more detail below, ILECs are utilizing substantial proportions of their legacy infrastructure to deliver broadband services. Thus, splitting investment between

[12] AT&T Petition, p. 9, emphasis added.
[13] Perhaps recognizing the inconsistency of its investment announcement and the claim that regulatory relief is needed to spur investment, AT&T also states that "AT&T makes this announcement with full confidence that the Commission will continue to implement the National Broadband Plan's vision of removing regulatory impediments to efficient, all-IP networks, including obligations that could require carriers to maintain legacy facilities and services even after they have deployed new, IP-based alternatives." (AT&T Petition, pp. 3-4.)
[14] http://www.att.com/gen/press-room?pid=23506&cdvn=news&newsarticleid=35661
[15] AT&T Petition, p. 12, citing to Robert C. Atkinson & Ivy E. Schultz, Columbia Institute For Tele-Information, "Broadband in America: Where It Is and Where It Is Going," November 11, 2009, http://www.broadband.gov/docs/Broadband_in_America.pdf .

broadband and legacy services is not as clear cut as AT&T suggests. Investment dollars that support portions of legacy plant (e.g., poles, conduit, fiber feeder, copper distribution) may also support broadband, thus the answer to questions regarding investments used to support legacy services depends on cost allocations. This fact is noted in the 2011 update to the 2009 Columbia Institute for Tele-Information study that was cited by AT&T. The updated study states the following regarding the splitting of investment between legacy and broadband networks, and includes an estimate of AT&T's investment allocation:

> How much of this total capital investment goes towards broadband? Since much of the capex is for general purpose digital networks that can carry voice, data and video, the answer is largely based on allocating the capital among a variety of services. One 2009 estimate was that:
>
> > "Approximately two thirds of AT&T's 2009 investment will extend and enhance the company's wireless and wired broadband networks to provide more coverage, speed and capacity."
>
> It is clear that the major telephone companies have shifted wireline capital from their "legacy" telephone networks to wired broadband, with broadband capex expected to reach nearly 60% of total wireline capex in 2011.[16]

It is important to note that the estimate of AT&T's investment allocation appearing in quotations in the passage above *comes directly from AT&T*.[17] Thus, the shift to broadband investment has been documented by AT&T and the Columbia Institute for Tele-Information, with the share associated with legacy networks showing a substantial decline.

[16] Robert C. Atkinson, Ivy E. Schultz Travis Korte, and Timothy Krompinger. "Broadband in America 2nd Edition: Where It Is and Where It Is Going (According to Broadband Service Providers). An Update of the 2009 Report Originally Prepared for the Staff of the FCC's Omnibus Broadband Initiative." Columbia Institute for Tele Information May, 2011. http://www4.gsb.columbia.edu/filemgr?file_id=738763

[17] http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=26597

## Low Customer Density, Not Regulation, is the Key Factor Hindering Broadband Deployment

AT&T admits that a compensatory level of universal service funding would result in broadband deployment in high-cost areas.[18] This indicates that the key factor hindering broadband deployment is the low density of these areas, a condition that undermines the business case for broadband. This fact was recognized by the Commission in the National Broadband Plan:

> This broadband availability gap is greatest in areas with low population density. Because service providers in these areas cannot earn enough revenue to cover the costs of deploying and operating broadband networks, including expected returns on capital, there is no business case to offer broadband services in these areas. As a result, it is unlikely that private investment alone will fill the broadband availability gap. The question, then, is how much public support will be required to fill the gap.[19]

In response to this problem, the Commission has redirected universal service support to address broadband deployment.[20] This is an appropriate pathway to delivering ubiquitous, affordable, and high quality broadband.

In summary, a more likely root cause of shortfalls in broadband deployment is the low density associated with rural and insular areas. That regulation is not the culprit is also evidenced by the fact that companies that are not subject to regulatory oversight, for example, cable companies, have refrained from investing in broadband in low density areas. In areas where the ILEC business case is favorable, the technology transition to which AT&T refers is ongoing, as evidenced by the actions taken by AT&T, Verizon, and other larger ILECs to

[18] AT&T Petition, p. 17. However, AT&T argues that this funding would only be appropriate if the carrier is making a voluntary commitment to serve (i.e., COLR obligations should be eliminated).
[19] National Broadband Plan, p. 136.
[20] *In the Matter of Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing an Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform – Mobility Fund.* WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, WT Docket No. 10-208. Report and Order and Further Notice of Proposed Rulemaking, November 18, 2011. (Hereinafter *Connect America Fund Order*.)

upgrade their networks to deliver broadband, and by smaller ILECs as well. As mentioned in the NTCA petition:

> As of December 2010, small rural carriers had deployed broadband to over 92 percent of their customers, and more than half of these carriers had either already deployed or had plans to deploy softswitches by the end of 2011.[21]

As discussed above, businesses make decisions utilizing a benefit/cost analysis, and evidence must be provided as to the specific investments that are being constrained by existing regulation. AT&T provides no evidence that the ILEC business case for broadband is likely to be tipped in favor of more investment by further deregulation.

## AT&T's "Trial Wire Center" Proposal Raises Concerns for Public Safety, Consumers, and Competition

In its petition, AT&T makes the following proposal:

> AT&T asks the Commission to consider conducting, for select wire centers chosen by incumbent local exchange carriers ("ILECs") that elect to participate, trial runs of the transition to next-generation services, including the retirement of time-division multiplexed ("TDM") facilities and offerings and their replacement with IP-based alternatives. These trials will help the Commission understand the technological and policy dimensions of the TDM-to-IP transition and, in the process, identify the regulatory reforms needed to promote consumer interests and preserve private incentives to upgrade America's broadband infrastructure.[22]

Thus, AT&T describes a three step process for its experiment: (1) ILECs decide which wire centers to submit for study, (2) trial runs of the transition to "next-generation" services will take place, and (3) TDM "facilities and offerings" will be "retired" and replaced with IP-based "alternatives." According to AT&T, these trials will help the Commission "understand the technological and policy dimensions of the TDM-to-IP transition," and to "identify regulatory reforms needed to promote consumer interests."[23] As will be discussed in more detail below, there are substantial issues associated with the transition to IP-enabled services. These issues

[21] NTCA Petition, p. 3, footnote citing to NECA data omitted.
[22] AT&T Petition, p. 1.
[23] AT&T Petition, p. 1.

have the potential to affect public health and safety, as well as competition and consumer interests. The experiment envisioned by AT&T also affects the ability of state public utility commissions to address their statutory obligations, and this Commission must recognize that the interests of the states must be respected as state authorities are much closer to the localized issues that will arise as the retirement of TDM technology unfolds.

While AT&T frames its three-step experiment as leading to the discovery of reforms needed to "promote consumer interests," AT&T separately proposes the reforms that it believes are necessary: suspension of Section 214 discontinuance requirements; forbearance from the Commission's short-term notice-of-network-change rules; suspension of federal and state service-obligation rules; interstate classification of all IP-enabled services (thus eliminating any potential state involvement); elimination of equal access requirements; elimination of dialing parity; and elimination of legacy copper loop requirements.[24] Changes of this magnitude have the potential to negatively affect public safety, consumers, and competition, and to the extent that AT&T's experiment requires that these "reforms" be unilaterally imposed by this Commission, the experiment should not be pursued. AT&T's proposal would give excessive latitude to the ILECs, and the impact and outcomes of the ILEC TDM "retirement free-for-all" envisioned by AT&T could have widely disparate and highly negative impacts on public safety, consumers, and competition.

In addition, the "retirement" of TDM "facilities and offerings" begs many questions. For example, even if TDM technology was eliminated in a wire center, the remaining infrastructure would likely look quite similar to the TDM infrastructure—poles, conduits, and fiber feeder would likely remain unchanged. Depending on the ILEC's plans to deliver ubiquitous broadband it might be the case that copper plant associated with the delivery of TDM-based

[24] AT&T Petition, pp. 13-19.

service would be "retired;" however, AT&T itself relies heavily on copper plant in its distribution networks to deliver its U-Verse service. Thus, even the distribution portion of an ILEC's network might also look very similar after the TDM "retirement." Of course, the "retirement" of TDM-based services would also affect CLECs, which continue to rely on ILEC facilities to serve business customers, including small businesses. Alternatively, as will be discussed further below, given that it is the apparent plan of both AT&T and Verizon to migrate a significant number of customers to LTE-based alternatives, the "TDM retirement" described by AT&T could also be a DSL retirement, thus eliminating a viable, unmetered, and reliable source of broadband.

### Is Forced Migration to LTE the Real Agenda?

AT&T's proposed experiment must be viewed in light of recent public statements made by AT&T and Verizon with regard to the envisioned role of LTE wireless in their networks.[25] Verizon's CEO Lowell McAdam describes Verizon's vision as follows:

> "the vision that I have is we are going into the copper plant areas and every place we have FiOS, we are going to kill the copper. We are going to just take it out of service and we are going to move those services onto FiOS. We have got parallel networks in way too many places now, so that is a pot of gold in my view.
>
> And then in other areas that are more rural and more sparsely populated, we have got LTE built that will handle all of those services and so we are going to cut the copper off there. We are going to do it over wireless."[26]

As discussed above, AT&T has made similar announcements, with the implication being that for as much as 25% of AT&T's service area, consumers may face a wireless-only option.[27] The Commission must carefully consider the impact of an ILEC's potential to abandon wireline voice

[25] This vision of relying on only LTE to serve more rural areas may have contributed to AT&T and Verizon's refusal of CAF Phase I funding. See, for example, http://www.dslreports.com/shownews/ATT-Verizon-Decline-Connect-America-Subsidies-120519 ; http://www.fiercetelecom.com/story/att-verizon-pass-fccs-connect-america-fund-phase-1-funding/2012-07-26

[26] Verizon CEO Lowell McAdam at Guggenheim Securities Symposium, June 21, 2012. Available at: www.media-alliance.org/downloads/Verizon_Kill_Copper.pdf

[27] See, http://www.att.com/gen/press-room?pid=23506&cdvn=news&newsarticleid=35661

and broadband facilities in the portion of its service area where it no longer wants to invest in wireline. Wireless broadband alternatives are typically metered and more costly to consumers than wireline broadband, thus limiting the usefulness of wireless broadband for many applications, such as streaming video. Furthermore, large numbers of consumers, where they have the choice, prefer to buy both wireless and wireline voice services. Eliminating this choice would have a substantial negative impact.

In a nutshell, AT&T's proposal would give ILECs carte blanche to define the "experiment," and the ultimate impact of the experiment on consumers and competitors. By placing the deregulation "cart" well before the public interest "horse" AT&T has failed to offer this Commission a viable approach to evaluate TDM-to-IP transition issues.

## The Commission Should Help Manage Risks Associated with the TDM to IP Transition

The FCC's Technology Advisory Council (TAC) is currently evaluating issues that will arise with the transition to broadband networks. This process has informed the Commission of the complexity and risks associated with the transition and the likelihood that there will be an ongoing role for this and state commissions as the transition occurs. For example, with regard to interconnection issues associated with VoIP service, the TAC states:

> Others, including service providers and "trade groups (COMPTEL, NTCA, NCTA, OPATSCO), Wireless (excluding AT&T or Verizon) and State Commissions" have taken the opposing view based on the concern that the market power of the largest service providers could create the opportunity to force unbalanced and unfair agreements. There is a strong belief that in order to ensure good faith negotiations between larger and smaller carriers and ensure the transition to VoIP Interconnection occurs in a timely manner, the FCC will ultimately have to create rules and processes to facilitate the transition.
>
> - The Telecom Act is technology neutral and section 251(c) interconnection rights extend to (at the least) managed VoIP.
>   - The Act provides for negotiation with safeguards: public disclosure, prohibitions on discrimination, opt-in rights and, where

> needed, arbitration. Some have asked for a date certain (5 years) to be established for VoIP Interconnection requests to be ubiquitous.[28]

This assessment supports the proposition that interconnection provisions of the Telecom Act will need to be overseen for VoIP as well as TDM services. However, AT&T suggests the following with regard to interconnection issues in the proposed trial wire centers:

> [T]o the extent VoIP replaces legacy circuit-switched telephony in the trial wire centers, the Commission would preclude carriers (including carrier customers) from demanding service or interconnection in TDM format in those wire centers. Hence, as VoIP replaces legacy circuit-switched telephony, no carrier would be required to provide TDM-based dedicated transmission services, which would be replaced by Ethernet or other IP services. Carriers would also have no right to demand TDM-based interconnection or services, including TDM-based tandem transit services or SS7-based signaling.[29]

AT&T's proposal is unreasonable. Leaving it to ILECs to unilaterally define interconnection relationships as the transition unfolds would impose unacceptable risks.

Other important factors are overlooked with AT&T's proposed approach. For example, the TDM-based PSTN has been incorporated into the operations of businesses and lives of individuals in ways that are not always obvious. As noted by the FCC's TAC:

> Network providers have huge investments in existing PSTN infrastructure including copper wire, switches, pole space, and software. Although new information services are designed for IP networks, many homes and businesses still use devices that depend on specific characteristics of the PSTN (e.g., auto-dialers, alarm systems, ATMs, PoS terminals). These services and devices will have to be replaced and the accompanying construction and inspection "codes" revised.[30]

This transition must acknowledge the impact on consumers and businesses, and reasonable allowances must be made for the numerous systems that rely on the PSTN. Home security systems, personal and medical monitoring, and telehealth applications may be configured based

[28] TAC Memo – VoIP Interconnection, September 24, 2012. http://transition.fcc.gov/bureaus/oet/tac/tacdocs/meeting92412/VoIP-Interconnection-TAC-Memo-9-24-12.pdf
[29] AT&T Petition, p. 21.
[30] FCC Encyclopedia, "Technological Advisory Council." http://www.fcc.gov/encyclopedia/technological-advisory-council

on the ubiquitous TDM network technology. While these technologies will eventually need to transition to an IP-based infrastructure, great care must be exercised to ensure that vital services that rely on the TDM-based PSTN are not adversely affected through the transition. How an ILEC handles the migration of services and service providers that currently depend on the technology protocols of the PSTN to the all-IP broadband environment must be carefully overseen, for both reasons of technical continuity and competition.[31] As a result, local, state, and federal agencies and other interested parties should be involved in the transition.[32]

In summary, AT&T's proposal skirts this Commission's ongoing efforts to address transition issues and would place the ILECs in charge of TDM retirement, potentially to the detriment of consumers and competitors. Such an approach would place public interest objectives at risk.

### AT&T's Proposal Undermines the Role of the States

AT&T's proposes that the Commission act unilaterally, and preempt state authority—"As AT&T previously has explained, IP-enabled services, including all VoIP services, are appropriately classified as interstate information services over which the Commission has exclusive jurisdiction. But some CLECs and state regulators continue to attempt to assert state jurisdiction over such services, although none exists."[33] AARP does not believe that preemption is the appropriate path. The Commission has previously declined to adopt industry proposals regarding preemption of voice services in its November 2011 *Connect America Fund Order*:

[31] Carriers like AT&T are quickly moving to compete with alarm and home automation service providers. See, e.g., "AT&T to start offering home automation service in March," *FierceTelecom*, January 8, 2012. http://www.fiercetelecom.com/story/att-start-offering-home-automation-service-march/2013-01-08?utm_medium=nl&utm_source=internal

[32] AT&T's proposal leaves open the possibility that there may be some trial wire centers where VoIP will not be deployed (i.e., AT&T states only that "to the extent that VoIP replaces legacy circuit-switched telephony in the trial wire centers…"). This caveat may reflect AT&T's desire to retire wireline TDM facilities and replace them with wireless alternatives. Wireless VoIP has yet to be deployed by wireless carriers, including AT&T, thus whether the trials envisioned by AT&T would even involve a complete IP-based transition is unclear.

[33] AT&T Petition, p. 18.

> We decline to preempt state obligations regarding voice service, including COLR obligations, at this time. Proponents of such preemption have failed to support their assertion that state service obligations are inconsistent with federal rules and burden the federal universal service mechanisms, nor have they identified any specific legacy service obligations that represent an unfunded mandate that make it infeasible for carriers to deploy broadband in high-cost areas. Carriers must therefore continue to satisfy state voice service requirements.[34]

AARP does not believe that there have been any events in the intervening period that should cause the Commission to reverse course on this matter. As noted by the Commission in the *Connect America Fund Order*:

> The first performance goal we adopt is to preserve and advance universal availability of voice service. In doing so, we reaffirm our commitment to ensuring that all Americans have access to voice service while recognizing that, over time, we expect that voice service will increasingly be provided over broadband networks.[35]

Voice services continue to fulfill an essential component of state and federal statutory objectives, and the transition to broadband does not undermine this fact.

There is no question that the provision of voice services continues to be a critical area of concern at the state level. For example, in a December 24, 2012 decision, the California Public Utilities Commission (CPUC) addressed the definition of basic telephone service, in light of technology change and consumer adoption of alternative technology. In that decision the CPUC states:

> An appropriate definition of basic telecommunications service is fundamental in supporting the Commission's goal of universal service, grounded in essential consumer protections providing:
>
> - a minimum level of telecommunications services available to virtually everyone in the state, i.e., there is ubiquitous presence of telecommunications services throughout the state, and
> - that the rates for such services remain reasonable….
>
> Consistent with our universal service goals, we previously defined basic service as consisting of those communications needs essential for participation in modern society.

[34] *Connect America Fund Order*, ¶82.
[35] *Connect America Fund Order,* ¶49.

> In D.95-07-050, we characterized basic service as the minimum level of service that consumers had come to expect, or services that are essential to all residential telephone customers. A provider can always offer more than what the basic service definition provides.
>
> Our revised definition continues to uphold these same guiding principles, preserving essential consumer protections while also being flexible to accommodate evolving marketplace technologies and differences in how basic service may be offered. The revised definition focuses on meeting the end-user customer's service needs rather than the specific technology used to provide it.[36]

AT&T's proposal would demolish state efforts to pursue statutory mandates and to ensure that state residents have reasonable access to high quality and affordable telecommunications services. If AT&T's proposal were adopted, the ability of the states to oversee service quality, service outages, anti-consumer practices such as cramming, and other market failures would be undermined.[37] As will be discussed in more detail below, AARP is not opposed to a reasoned review of regulation, however, this Commission should work with states during that review, and should not preempt the states as AT&T suggests.

## AT&T's Approach to Technology Mitigation Suggests that Consumers May be Forced to Inferior and More Costly Alternatives

AT&T offers few details regarding how the trials would take place, and the details that are offered leave many questions unanswered. The first step identified by AT&T is that "the Commission would make clear that providers need not obtain section 214 approval from the Commission or similar approval from state authorities in order to replace TDM services with *alternatives*."[38] While it is certainly inappropriate that the Commission preempt the states, the lack of details on the "alternatives" that AT&T envisions is troubling. The Commission should not give the ILECs carte blanche to redefine service offerings. 2012 data indicates that the

[36] California Public Utilities Commission, D.12-12-038, December 24, 2012, p. 12.
[37] Furthermore, AT&T's request that all IP-enabled services be classified as interstate *information services* (AT&T Petition, p. 19) would undermine the Commission's ability to perform its duties under the Communications Act. For example, AT&T's laundry list of relief would strip away pro-competitive policies associated with network unbundling.
[38] AT&T Petition, p. 21, emphasis added.

majority of all households (64.2%) continue to purchase wireline voice services,[39] and as discussed earlier, for older Americans, the percentage that purchases wireline is higher still. Furthermore, according to the National Health Interview Survey, wireline services are even more popular outside of metropolitan areas, the very areas that are more likely to be affected by the major ILECs' plans to abandon their wireline networks. Nationwide, non-metropolitan areas exhibit cord cutting rates eight (8.6) percentage points *lower* than metropolitan areas (27.1 percent vs. 35.7 percent).[40] This indicates that approximately 73 percent of all households in non-metropolitan areas continue to rely on wireline voice services, and given the more limited reach of cable voice services outside of metropolitan areas, a substantial portion of these wireline voice services are provided by ILECs. The Commission cannot ignore these consumer preferences for wireline services, making the specification of the TDM "alternative" all the more critical.

AT&T also proposes that the Commission should support a forced migration away from TDM services in the trial wire centers:

> [T]he Commission would implement reforms designed to prevent a few customers from delaying that transition, as happened in the transition from analog to digital television and in the sunset of analog cellular services. In particular, the Commission would permit service providers to notify customers that such service providers will no longer provide them legacy services once the legacy TDM network is retired. Under this approach, customers would of course be given sufficient opportunity to establish alternative arrangements. Alternatively, if the Commission is concerned that non-migrating customers will be cut off (even temporarily) from service, it could allow those customers' existing service providers to switch them to an alternative service at the time of the technological transition.[41]

[39] Stephen J. Blumberg, Ph.D., and Julian V. Luke, "Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January-June 2012," Division of Health Interview Statistics, National Center for Health Statistics, December 19, 2012, p. 1. http://www.cdc.gov/nchs/nhis/releases.htm#wireless
[40] Stephen J. Blumberg, Ph.D., and Julian V. Luke, "Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January-June 2012," Division of Health Interview Statistics, National Center for Health Statistics, December 19, 2012, Table 2, p. 9. http://www.cdc.gov/nchs/nhis/releases.htm#wireless
[41] AT&T Petition, p. 22.

Thus, presumably, in those areas where an ILEC decides to eliminate wireline service, consumers would be forced to abandon the service that they have chosen, and migrated to a wireless-only service arrangement. This forced migration could apply to both legacy voice services and broadband DSL services. Of course, there are important reasons why consumers do not choose to go wireless only, including, but not limited to the fact that wireless services are measured rate and more expensive than wireline services, and the fact that wireless service is not guaranteed to work anywhere, especially indoors.[42] As recently noted by the California Public Utilities Commission in its consideration of a technology-neutral definition of basic service, the ability of a consumer to receive service within their premises is critical:

> We disagree with parties' claims that customers do not require a voice grade connection within their homes as long as they have access to the mobility advantage offered by wireless. This argument ignores the essential nature of basic service as a residentially-based service. While we recognize that wireless phones offer mobility advantages, those advantages do not negate the essential basic service need to be able to communicate within the customer's own residence.[43]

AARP is deeply concerned regarding the impact on consumers of a forced migration from legacy TDM-based voice technologies to alternatives that do not deliver comparable quality, reliability, and affordability. The technology transformation should not result in consumer harms and the Commission should not be a party to a forced migration of consumers to inferior and more costly alternatives.

[42] For example, AT&T offers the following explanation of its wireless coverage depictions as contained in their coverage maps: "Actual coverage may differ from map graphics and may be affected by terrain, weather, foliage, buildings and other construction, signal strength, high-usage periods, customer equipment and other factors. AT&T does not guarantee coverage and our coverage maps are not intended to show actual customer performance on the network, nor are they intended to show future network needs or build requirements inside or outside of AT&T's existing coverage areas." http://www.wireless.att.com/coverageviewer/popUp_legal.jsp

[43] California Public Utilities Commission, D.12-12-038, December 24, 2012, pp. 21-22.

## AT&T's Proposal Ignores Critical Public Safety Issues

AT&T states that "converged IP networks are more dynamic, versatile, resilient, and cost-efficient than legacy TDM networks,"[44] however, substantial reliability issues surround the transition to broadband. Service reliability associated with the underlying broadband networks must be addressed, and performance standards must be established prior to TDM retirement. While not perfect, TDM-based technology has the potential to provide service when the power is out, due to back-up power at central offices. That these backup power arrangements are critical has been noted in the recent report of the Commission's Public Safety and Homeland Security Bureau. That report highlights the importance of adequate backup power at the central office:

> The derecho experience makes clear how important it is for the provision of emergency service and reliable and resilient communications to ensure that providers maintain robust, resilient backup power in central offices, supported by appropriate testing, maintenance, and records retention. As the Commission has recognized previously, reliable central office backup power is essential for communications during large-scale emergencies. Failure of central office backup power during a commercial power outage can disable wireline communications for a community, including emergency communications. It is likely that the benefits of this recommendation will outweigh the costs, given the significant public-safety concerns and the limited number of central offices; moreover, providers most likely can comply affordably given that much of the needed infrastructure may already be in place.[45]

While the derecho report highlights problems with backup power with existing TDM services, broadband, and the VoIP services that are provided over broadband networks, do not provide similar backup power arrangements. Broadband networks are more reliant on the power grid, even if a battery backup is provided at the customer's premise, a fact that became readily apparent to millions of customers following the Sandy superstorm.[46] If for no other reason, this

[44] AT&T Petition, p. 4.
[45] "Impact of the June 2012 Derecho on Communications Networks and Services Report and Recommendations." A Report of the Public Safety and Homeland Security Bureau Federal Communications Commission, January 2013. http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0110/DOC-318331A1.pdf
[46] See, for example, "Sandy Smacks Cable, Telco Networks ," *Multichannel News,* October 30, 2012. http://www.multichannel.com/cable-operators/sandy-smacks-cable-telco-networks/140054 . See also, "Comcast Outages Blamed on Power Outages," *4 NBC Washington*, July 2, 2012. http://www.nbcwashington.com/news/local/Comcast-Outages-Blamed-on-Power-Outages-161162315.html

Commission should not move forward with AT&T's proposal until the reliability of broadband networks during power outages is addressed. There is every reason to ensure that the public broadband network of the future has backup power arrangements that are at least as reliable as those associated with today's TDM networks.

Furthermore, as noted in a recent NRRI report, the issue of backup power affects the performance of networks to which alarm systems are connected:

> The National Fire Protection Association (NFPA) publishes the National Fire Alarm and Signaling Code. The purpose of the code, as with a multitude of other codes published by NFPA, is to put in place standards that reduce the threat from fire and other hazards.
>
> A digital alarm communicator transmitter (DACT) is a widely used means of transmitting alarm and other signals. The NFPA code states that "[a] DACT shall be connected to the public switched telephone network upstream of…the protected premises." Stated differently, the code has traditionally required that a premise fire alarm be transmitted to control equipment via the legacy PSTN.
>
> The 2010 edition of the Fire Alarm Code recognizes that:
>
> > [t]he evolution of the deployment of telephone service has moved beyond the sole use of metallic conductors connecting a telephone subscriber's premises with the nearest telephone service provider's control and routing point (wire center). In the last 25 years, telephone service providers have introduced a variety of technologies to transport multiple, simultaneous telephone calls over shared communication's pathways. In order to facilitate the further development of the modernization of the telephone network, the authorized common carriers (public utility telephone companies) have transitioned their equipment into a managed facilities-based voice network (MFVN) capable of providing a variety of communications services in addition to the provision of traditional telephone service.
>
> Starting with the 2010 code, NFPA accepts that a DACT can either connect to the alarm center using "traditional copper-wire telephone service (POTS…) or by means of equipment that emulates the loop-start telephone circuit and associated signaling and then transmit[s] the signals over a pathway using packet-switched (IP) networks or other communications methods that are part of an MFVN."
>
> The code requires that the MFVN provide a connection that "is functionally equivalent to traditional PSTN-based services." This can be done through, among other provisions, the provision of a loop-start telephone, "8 hours of standby power supply capacity for MFVN communications equipment…located at the protected premises," and "24 hours of standby power supply capacity for MFVN communications equipment located at the communication service provider's central office."

> The 2010 Fire Alarm and Signaling Code illustrates how historically standards, regulations, building codes, and business practices were written on the presumption that the legacy PSTN would be used to transmit information.[47]

The Commission must recognize the importance of the reliability of the PSTN, and the impact of changes in that reliability as the transition to a public IP-based broadband network unfolds. As discussed earlier, it is not only 911 services and fire alarms that depend on this reliability. Current and future home, personal, and healthcare monitoring systems will also depend on reliable network services.

In conclusion on AT&T's petition, the framework provided does not supply a reasonable path forward. As will be discussed further below, NTCA proposes a more focused approach to review existing regulations in light of the transition from TDM to IP-based networks. Such an approach is more likely to result in an outcome that is consistent with the public interest. For example, AT&T argues that state-level service obligations preclude the retirement of TDM-based networks, and that preemption is the solution.[48] A better outcome will be generated if this and other issues are examined in conjunction with the relevant state commissions. Such an approach will enable the crafting of a solution that enables the transition while at the same time supporting state and federal statutory objectives.

## The NTCA Petition

AARP finds much to support in the NTCA petition, precisely because NTCA recognizes that the scope of the evaluation of existing regulation must maintain sharp focus on the impact of technology transition on consumers. NTCA states:

> The fundamental need of all Americans for high-quality communications and affordable access to the services that enable such communications remains unchanged and is entirely

[47] Professor David Gabel and Steven Burns, "The Transition from the Legacy Public Switched Telephone Network to Modern Technologies," NRRI Report No. 12–12, October 2012. Footnotes omitted.
[48] AT&T Petition, p. 16.

> independent of the underlying technology used within the PSTN or the PRCN [Public Routed Communications Network] that connects them. Indeed, the core objectives of the Act—which include, above all else, making available "so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nation-wide and world-wide wire and radio communication with adequate facilities at reasonable charges"—must apply with equal force whether services are rendered through Class 5 TDM switches and copper networks or routers, softswitches, and cutting-edge fiber or wireless solutions.
>
> Regulatory distinctions that turn on what technology might be used to deliver a given service devolve into form over substance. The important distinctions for regulatory purposes should come not in how the service is delivered, but rather what the consumer receives. Any regulatory analysis driven primarily by network technology rather than consumer experience and expectation is doomed to fail those consumers in the end. Similarly flawed is any approach that elevates a desire to promote the achievement of any specific technological platform as a goal of its own significance without tether to the ultimate statutory cornerstones of protecting consumers, promoting competition, and ensuring universal service. Indeed, even as services may evolve beyond the boundaries of traditional telecommunications service offerings, for example via inclusion of potential "information service" components, the Commission must not blindly accept the idea that the fundamental public policy objectives established by the Act can now safely be ignored. Finally, it is essential both as a matter of sound public policy and legal authority for the Commission to coordinate its analysis of next steps in a PRCN world with state regulators, as they are closest to the consumers, retain jurisdiction over intrastate services, and can help tailor solutions and tackle the challenges of fulfilling universal service and promoting competition on a localized basis.[49]

AARP agrees with NTCA that the statutory requirements are technology neutral, that the impact of change on consumers must be the primary focus of this Commission. AARP also agrees that the role of the states must be preserved.

NTCA goes on to propose a three-step process that will result in an examination of existing regulatory requirements, with the objective of determining which are needed and which can be modified or eliminated.[50]

> (1) Develop a list of specific existing regulations that may have limited or no applicability in the delivery of IP-enabled services (or even with respect to TDM-based services) because of technological change, competitive forces, or other regulatory, market, or economic developments;

[49] NTCA Petition, p. 4.
[50] NTCA Petition, p. 11.

> (2) Seek comment on which of the identified regulations: (a) might be eliminated for the specific purpose of enhancing the ongoing migration of networks from TDM-based to IP-based platforms while also furthering the statutory cornerstones of protecting consumers, promoting competition, and ensuring universal service; (b) might be retained in current form to satisfy the statutory cornerstones of protecting consumers, promoting competition, and ensuring universal service; and (c) might be retained but require modification in specifically defined ways (or might need to be replaced or supplemented by specific new regulations) to further the evolution of IP-enabled networks while serving the core statutory objectives of protecting consumers, promoting competition, and ensuring universal service; and
>
> (3) Set a firm but reasonable deadline to complete this comprehensive, but granular, "refreshing" of the governing regulatory framework such that the evolution of IP-enabled networks can be sustained.[51]

AARP believes that this approach may have some merit, especially if the sharp focus of the proceeding on TDM to broadband transition issues is used to ensure that the outcome of the transition is consistent with statutory and other public interest objectives. In addition to considering whether certain regulations may interfere with the technology transition, the proceeding must also consider existing policy and regulation in light of the transition to broadband. There may be legacy requirements that may not make sense *per se* in the IP-enabled broadband world because of their PSTN-based specifics. However, the legacy obligations may hold the kernel of a policy objective that will continue to make sense for the IP-enabled broadband environment, thus requiring a reworking of the legacy requirement.

For example, both AT&T and NTCA mention the potential inappropriateness of equal access requirements.[52] Considering the role of equal access in a broadband environment is reasonable and appropriate. For example, long distance competition and consumer selection of a presubscribed long distance carrier may make less sense in an environment of competing VoIP offerings. However, the spirit of equal access requirements remains valid in the broadband world. Equal access requirements arose because of concern that the provider of a service

[51] NTCA Petition, p. ii.
[52] AT&T Petition, pp. 18-19; NTCA Petition, p. 9.

platform for which consumers had little choice (i.e., local telephone service) would stifle competition for the long distance services that rode "over the top" of the customer's local service connection. Similarly, ensuring that the provider of a broadband connection does not unreasonably interfere with the competitive services that a consumer chooses to purchase "over the top" in the broadband world (e.g., voice, video, alarm monitoring, etc.) continues to be a vital policy objective. Thus, an "equal access" outcome is just as important for broadband—consumers should be able to enter into reasonable service provision arrangements with third party providers. The owner of the broadband connection, for which there is little competition, should not be allowed to dictate service choices or unreasonably interfere with consumer choice.

And by any measure, the level of competition in residential broadband markets is weak, and there is little reason to expect that this outcome will improve in the foreseeable future. Most consumers have the choice of telephone company DSL or cable modem service.[53] This duopoly does not generate competition that is capable of disciplining market power. This lack of competition does not bode well for the achievement of the statutory objectives by market forces alone. Broadband prices and quality will not reflect economically efficient outcomes if competition does not provide sufficient incentives to service providers. As a result, this Commission must consider the appropriateness of adding consumer protections associated with the affordability, quality, and reliability of broadband services, and with managed VoIP services that will run on broadband networks.

[53] Data from the FCC's most recent Internet access report indicates that cable and telephone company sources of broadband make up approximately 97.9% of all fixed broadband connections. See, "Internet Access Services: Status as of June 30, 2011," Industry Analysis and Technology Division Wireline Competition Bureau, June 2012, Table 7. Some have noted that because of the technology advances achieved by cable relative to DSL, that the market is looking more like a monopoly. See, for example, Susan P. Crawford, "The Looming Cable Monopoly," Yale Law & Policy Review Inter Alia, Vol 29, pp. 34-40. http://yalelawandpolicy.org/sites/default/files/YLPRIA29_Crawford.pdf . See also Nate Anderson, "So long, broadband duopoly? Cable's high-speed triumph: Most Americans who want truly high-speed Internet access will soon have only. . ." *ars technica*, January 3, 2011, http://arstechnica.com/tech-policy/2011/01/so-long-broadband-duopoly-cables-high-speed-triumph/

## Conclusion

The NTCA petition applies an analogy to describe the Commission's range of options that includes taking a "sledgehammer" to the existing regulatory foundation. AARP finds this analogy to be apt. AT&T's proposal would result in the demolition of the foundation upon which this Commission and state regulatory agencies pursue relevant statutory objectives, including the promotion of competition and the protection of consumers. AARP believes that AT&T's sledgehammer is exactly the wrong approach. Rather, the regulatory foundation must be evaluated in light of the statutory objectives of promoting competition, ensuring access to reasonably priced and high quality services, and protecting consumers. To the extent that certain bricks in that foundation are in need of repair, need to be removed, or whether there are other bricks that are missing and need to be added, a collaborative effort between this Commission, state commissions, and other interested parties will ensure that statutory and policy objectives are fulfilled. The Commission should reject AT&T's petition. If the Commission believes that a review of the regulatory foundation is appropriate at this time, it should pursue the approach advocated by NTCA, with the additions suggested above.